

# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** ( Not for submission under 37 CFR 1.99)

Application Number		10566063
Filing Date		2006-01-26
First Named Inventor	Alan Martin Birch	
Art Unit		
Examiner Name	Not yet assigned	
Attorney Docket Number	101159-1P US	

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	1	3706810		1972-12-19	American Cyanamid Company	
	2	4599198		1986-07-08	Pfizer Inc.	
	3	4668769		1987-05-26	Dennis J. Hoover	
	4	4692522		1987-09-08	Merck & Co., Inc.	
	5	4720503		1988-01-19	Merck & Co., Inc.	
	6	4751231		1988-06-14	Merck & Co., Inc.	
	7	4786641		1988-11-22	Bayer Aktiengesellschaft	
	8	4794120		1988-12-27	Synthelabo	

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	9	5863903		1999-01-26	Novo Nordisk A/S	
	10	5998463		1999-12-07	Pfizer Inc.	

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	1	200740	DD	A	1983-06-08	Karl Gewald et. al.		<input checked="" type="checkbox"/>
	2	4445968	DE	A1	1996-06-27	Bayer AG		<input checked="" type="checkbox"/>
	3	0697403	EP	A1	1996-02-21	Sanofi		<input checked="" type="checkbox"/>
	4	0846464	EP	A2	1998-06-10	Pfizer Inc		<input type="checkbox"/>

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5	0884050	EP	A1	1998-12-16	Novo Nordisk A/S		<input type="checkbox"/>
6	0978279	EP	A1	2000-02-09	Pfizer Products Inc.		<input type="checkbox"/>
7	1088824	EP	A2	2001-04-04	Pfizer Products Inc.		<input type="checkbox"/>
8	1125580	EP	A2	2001-08-22	Pfizer Products Inc.		<input type="checkbox"/>
9	1134213	EP	A2	2001-09-19	Pfizer Inc.		<input type="checkbox"/>
10	1136071	EP	A2	2001-09-26	Pfizer Products Inc.		<input type="checkbox"/>
11	1145717	EP	A2	2001-10-17	Pfizer Products Inc.		<input type="checkbox"/>
12	1149580	EP	A1	2001-10-31	Pfizer Products Inc.		<input type="checkbox"/>
13	1177791	EP	A2	2002-02-06	Pfizer Products Inc.		<input type="checkbox"/>
14	1340500	EP	A1	2003-09-03	Pfizer Products Inc		<input type="checkbox"/>
15	2081747	ES	A1	1996-03-01	Laboratories del Dr. Esteve, S.A.		<input checked="" type="checkbox"/>

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16	04179949	JP	A	1992-06-26	Fuji Photo Film CO., Ltd.		<input checked="" type="checkbox"/>
17	2001 089368	JP	A	2001-04-03	Tanabe Seiyaku Co., Ltd		<input checked="" type="checkbox"/>
18	2001 206856	JP	A	2001-07-31	Pfizer Products Inc.		<input checked="" type="checkbox"/>
19	2001 247565	JP	A	2001-09-11	Pfizer Products Inc		<input checked="" type="checkbox"/>
20	2004 196702	JP	A	2004-07-15	Yamanouchi Pharmaceuticals Co., Ltd.		<input checked="" type="checkbox"/>
21	93/25574	WO	A1	1993-12-23	Pfizer Inc.		<input type="checkbox"/>
22	95/24391	WO	A1	1995-09-14	Novo Nordisk A/S		<input type="checkbox"/>
23	96/39384	WO	A1	1996-12-12	Pfizer Inc.		<input type="checkbox"/>
24	96/39385	WO	A1	1996-12-12	Pfizer Inc.		<input type="checkbox"/>
25	97/09040	WO	A1	1997-03-13	Novo Nordisk		<input type="checkbox"/>
26	97/31901	WO	A1	1997-09-04	Mikael Bols		<input type="checkbox"/>

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27	97/45425	WO	A1	1997-12-04	Fujisawa Pharmaceutical Co., Ltd.		<input type="checkbox"/>
28	98/27108	WO	A2	1998-06-25	Fujisawa Pharmaceutical Co., Ltd.		<input type="checkbox"/>
29	98/40353	WO	A1	1998-09-17	Novo Nordisk A/S		<input type="checkbox"/>
30	98/50359	WO	A1	1998-11-12	Novo Nordisk A/S		<input type="checkbox"/>
31	99/26659	WO	A1	1999-06-03	Pfizer Products Inc.		<input type="checkbox"/>
32	99/36393	WO	A1	1999-07-22	Tanabe Seiyaku Co., Ltd.		<input type="checkbox"/>
33	00/42213	WO	A1	2000-07-20	The Research Foundation of State University of NY		<input type="checkbox"/>
34	00/47206	WO	A1	2000-08-17	Novo Nordisk A/S		<input type="checkbox"/>
35	01/05954	WO	A1	2001-01-25	Isis Pharmaceuticals Inc		<input type="checkbox"/>
36	01/23347	WO	A1	2001-04-05	Novo Nordisk A/S		<input type="checkbox"/>
37	01/32622	WO	A1	2001-05-10	AstraZeneca AB		<input type="checkbox"/>

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38	01/32654	WO	A2	2001-05-10	Societe de Conseils de Recherches et D'App Sci	<input checked="" type="checkbox"/>
39	01/52825	WO	A2	2001-07-26	Novartis AG	<input type="checkbox"/>
40	01/68055	WO	A1	2001-09-20	Pfizer Products Inc.	<input type="checkbox"/>
41	01/68092	WO	A2	2001-09-20	Pfizer Products Inc.	<input type="checkbox"/>
42	01/68603	WO	A2	2001-09-20	Bristol-Myers Squibb Co.	<input type="checkbox"/>
43	01/94300	WO	A1	2001-12-13	Aventis Pharma Deutschland GMBH	<input checked="" type="checkbox"/>
44	01/96311	WO	A2	2001-12-20	Bristol-Myers Squibb Company	<input type="checkbox"/>
45	01/96347	WO	A1	2001-12-20	Bristol-Myers Squibb Company	<input type="checkbox"/>
46	02/20530	WO	A1	2002-03-14	AstraZeneca AB	<input type="checkbox"/>
47	02/26714	WO	A1	2002-04-04	Takeda Chemical Industries	<input checked="" type="checkbox"/>
48	02/34718	WO	A1	2002-05-02	Richter Gedeon Vegyeszeti Gyar RT	<input type="checkbox"/>

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	49	02/36583	WO	A1	2002-05-10	Shionogi & Co., Ltd.	<input checked="" type="checkbox"/>
	50	02/80844	WO	A2	2002-10-17	Genzyme Corporation	<input type="checkbox"/>

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#### NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T5
	1	CROCHET R.A., et al., J. Het. Chem., "Synthesis of Substituted Thieno[2,3-b] pyrroles," April 1974, 143-150, Vol. 11.	<input type="checkbox"/>
	2	HARTMAN G.D., et al., "The Synthesis of 5-Alkylaminomethylthieno[2,3-b]Pyrrole-5-Sulfonamides," Heterocycles, 1989, 1943-1949, Vol. 29(10).	<input type="checkbox"/>
	3	MCCORMACK J.G., et al., "Pharmacological Approaches to Inhibit Endogenous Glucose Production as a Means of Anti-diabetic Therapy," Curr. Pharmaceutical Design, 2001, 1451-1474, Vol. 7.	<input type="checkbox"/>
	4	JAKOBSEN P., et al., "Iminosugars: Potential Inhibitors of Liver Glycogen Phosphorylase.," Bioorganic Med. Chem., 2001, 733-744, Vol. 9.	<input type="checkbox"/>
	5	TREADWAY J.L., et al., "Glycogen phosphorlase inhibitors for treatment of type 2 diabetes mellitus," Exp. Opin. Invest. Drugs, 2001, 439-454, Vol. 10(3).	<input type="checkbox"/>
	6	RATH V.L. et al., "Activation of Human Liver Glycogen Phosphorylase by Alteration of the Secondary Structure and Packing of the Catalytic Core," Mol. Cell, July 2000, 139-148, Vol. 6.	<input type="checkbox"/>
	7	OIKONOMAKOS N.G., et al., "Allosteric inhibition of glycogen phosphorylase a by the potential antidiabetic drug 3-isopropyl 4-(2-chlorophenyl)-1,4-dihydro-1-ethyl-2-methyl-pyridine-3,5,6-tricarboxylate," Protein Sci., 1999, 1930-1945, Vol. 8.	<input type="checkbox"/>

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8	VENKATARAMAN P., et al., "Prediction of Ligand-Receptor Binding Thermodynamics by Free Energy Force Field Three-Dimensional Quantitative Structure-Activity Relationship Analysis: Applications to a Set of Glucose Analogue Inhibitors of Glycogen Phosphorylase," J. Med. Chem., 1999, 2169-2179, Vol. 42.	<input type="checkbox"/>
9	HOOVER D.J., et al., "Indole-2-carboxamide Inhibitors of Human Liver Glycogen Phosphorylase," J. Med. Chem., 1998, 2934-2938, Vol. 41.	<input type="checkbox"/>
10	MARTIN W.H., et al., "Discovery of a human liver glycogen phosphorylase inhibitor that lowers blood glucose in vivo," PNAS, Feb. 1998, 1776-1781, Vol. 95.	<input type="checkbox"/>
11	SOMAN G., et al., "The Nature of the Binding Site for Aromatic Compounds in Glycogen Phosphorylase b," Biochem. J., 1975, 369-371, Vol. 147.	<input type="checkbox"/>
12	SOMAN G., et al. "Aromatic Compounds as Allosteric Inhibitors of Glycogen Phosphorylase b," Biochimica et Biophysica Acta, 1974, 359-362, Vol. 358.	<input type="checkbox"/>
13	ROSAUER K.G., et al., "Novel 3,4-Dihydroquinolin-2(1H)-one Inhibitors of Human Glycogen Phosphorylase a," Bioorganic & Medicinal Chemistry Letters, 2003, 4385-4388, Vol. 13.	<input type="checkbox"/>
14	TEAGUE J. et al., "Mobilisation of Tissue Glycogen Following Inhibition of Glycogen Phosphorylase in fa/fa Rat," Diabetes, 53, Supp. 2, 2004, A365, 1521-P.	<input type="checkbox"/>
15	VERTIGAN H. et al., "Impact of cell glycogen content on modulation of hepatocyte glucose metabolism by pharmacological agents," Diabetologia, 2004, A214, 589, Vol. 47, Supp.1.	<input type="checkbox"/>
16	FONT M. et al. "Indoles and pyridazino[4,5-b]indoles as nonnucleoside analog inhibitors of HIV-1 reverse transcriptase", European Journal Med Chem, 1995, 963-71, Vol. 30.	<input type="checkbox"/>
17	LIN T. et al. "Effects of Protein Binding and Experimental Disease States on Brain Uptake of Benzodiazepines in Rats", J Pharmacology & Eptl Therapeutics, 1990, 45-50, Vol. 253(1).	<input type="checkbox"/>
18	VARNAVAS A. et al. "Quinolone Derivatives: Synthesis and Binding Evaluation on Cholecystokinin Receptors", Il Farmaco, 1996, 341-350, Vol. 51(5).	<input type="checkbox"/>



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19	PARSONS W H. et al. "Cholecystokinin Antagonists. Synthesis and Biological Evaluation of 3-Substitued Benzolactams", J Med Chem, 1989, 1681-5, Vol. 32.	<input type="checkbox"/>
20	FREEMAN S., et al., "Effect of Glucose on Rat and Human Liver Glycogen Phosphorylase Activity and Potency of a Glycogen Phosphorylase Inhibitor," Diabetes, 52, Supp., 2003, A340, 1470-P.	<input type="checkbox"/>
21	TURNBULL A., et al., "Pharmacological Inhibition of Glycogen Phosphorylase (GP) Lowers Plasma Glucose in Rat Models of Type 2 Diabetes," Diabetes, 52, Supp., 2003, A343, 1485-P.	<input type="checkbox"/>
22	BIRCH A., et al., "Novel Thienopyrrole Glycogen Phosphorylase Inhibitors: In Vitro SAR and Crystallographic Studies," Poster, Cambridge Med Chem Symposium, Sept 2003.	<input type="checkbox"/>
23	HUDSON S., et al., "The effect of a glycogen phosphorylase inhibitor upon muscle fatigue in anaesthetised rats," J. Physiol., 2002, 52-53, Vol. 539.	<input type="checkbox"/>
24	VERTIGAN H. et al., "Impact of cell glycogen content on modulation of hepatocyte glucose metabolism by pharmacological agents", EASD Munich, 2004.	<input type="checkbox"/>
25	BARTLETT J. et al., "In Vitro and In Vivo Profile of Gpi688, a Novel, Potent Inhibitor of Glycogen Phosphorylase", ADA San Diego, 2005.	<input type="checkbox"/>
26	BENNETT S N L. et al., "Novel Orally Active Amino-indan Inhibitors of Glycogen Phosphorylase", Cambridge Med Chem Conference, Sept 2005. Poster EOM.	<input type="checkbox"/>
27	GREEN A R. et al., "The Glycogenic Action of Protein Targeting to Glycogen in Hepatocytes Involves Multiple Mechanisms Including Phosphorylase Inactivation and Glycogen Synthase Translocation", J Biol Chem, 2004, 46474-46482, Vol. 279(45).	<input type="checkbox"/>
28	ROBERTS P A. et al., "The temporal relationship between glycogen phosphorylase and activation of the pyruvate dehydrogenase complex during adrenaline infusion in resting canine skeletal muscle", J Physiology, 2002, 297-304, Vol. 545(1).	<input type="checkbox"/>

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**EXAMINER SIGNATURE**

Examiner Signature		Date Considered	
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**CERTIFICATION STATEMENT**

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

**OR**

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

**SIGNATURE**

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Lucy Padget/	Date (YYYY-MM-DD)	2006-05-19
Name/Print	Lucy Padget Registration No: L0074	Registration Number	

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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